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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/784,890	02/24/2004	George Nakhla	14624CIP	9976
293	7590	02/22/2007	EXAMINER	
Ralph A. Dowell of DOWELL & DOWELL P.C. 2111 Eisenhower Ave Suite 406 Alexandria, VA 22314			CINTINS, IVARS C	
ART UNIT		PAPER NUMBER		1724
SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE		
3 MONTHS	02/22/2007	PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)
	10/784,890	NAKHILA ET AL.
	Examiner	Art Unit
	Ivars C. Cintins	1724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 22 November 2006.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-20 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____.
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)	5) <input type="checkbox"/> Notice of Informal Patent Application
Paper No(s)/Mail Date _____.	6) <input type="checkbox"/> Other: _____.

Claims 1-20 are again rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-11 of U.S. Patent No. 6,716,344. The system recited in claims 1-20 of this application is structurally indistinguishable from that recited in claims 1-11 of U.S. Patent No. 6,716,344, as explained below.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

The following is a quotation of the first paragraph of 35 U.S.C. § 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-17 are again rejected under 35 U.S.C. § 112, first paragraph, as based on a disclosure which is not enabling. As pointed out in the previous Office action, Applicant has disclosed that both separator 46 and clarifier 76 play a "critical role" in the system of the invention (see page 11, lines 19-23 of the specification); and since these two essential structural elements have not been recited in claims 1-17, these claims are not enabled by the disclosure. *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976).

The following is a quotation of the second paragraph of 35 U.S.C. § 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-17 are again rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. As pointed out in the previous Office action, claims 1-17 fail to recite the apparently essential separator and clarifier; and therefore, these claims fail to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-20 are again rejected under 35 U.S.C. 102(e) as being anticipated by Bassi et al. (U.S. Patent No. 6,716,344; hereinafter "Bassi"). The reference discloses a liquid-solid circulating system containing all of the recited structural elements and structural interrelationships; and this reference system is inherently capable of being employed as a gas-liquid-solid circulating fluidized bed system.

Applicant's arguments filed November 22, 2006 have been noted and carefully considered but are not deemed to be persuasive of patentability. Applicant argues that while both the separator **46** and clarifier **76** are important for getting a pressure balance in the system, these are not essential for the system to work as a whole. It is pointed out, however, that Applicant has clearly disclosed that these two elements play a critical role in the system of the invention (see page 11, lines 19-23 of the specification).

Applicant's use of the word "critical" for pressure balance between riser column **12** and downer column **10** clearly indicates that Applicant considers these two elements to be essential to the claimed invention. Accordingly, since claims 1-17 fail to recite these two essential structural elements, these claims are not enabled by the disclosure; and they

fail to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

Applicant also argues that Bassi does not anticipate claims 1-20 because this reference "does not disclose the limitations of bacteria immobilized on the particles and the nozzles for gas injection which are structural limitations in claim 1." Again, this argument has been noted and carefully considered, but is not deemed to be persuasive of patentability. It is pointed out that claim 1 merely requires means to feed solid particles having effective immobilized bacteria coated thereon into the first fluidized bed, not the solid particles themselves. Since the Bassi system clearly includes such means to feed solid particles (i.e. hopper **16** and pipe **17** which function in the identical manner to Applicant's hopper **50** and pipe **19**), this reference system is deemed to satisfy the limitation recited in lines 3-8 of claim 1. It is further pointed out that fluid distributor **22** and/or nozzle **38** of the reference device is inherently capable of injecting a gas into the first fluidized bed (i.e. by connecting a source of pressurized fluid to either of these elements) in the same manner as Applicant's distributor **80**; and nozzle **30** of this reference device is inherently capable of injecting a gas into the second fluidized bed of this reference system. Therefore, these reference elements are deemed to be structurally indistinguishable from the "gas injection means" recited in line 15 of claim 1.

Applicant further argues that claim 1 recites a "gas-liquid-solid" circulating fluidized bed system whereas Bassi only discloses a "liquid-solids" circulating fluidized bed system. Once again, this argument has been noted and carefully considered, but is not deemed to be persuasive of patentability. It is pointed out that since the reference

discloses a liquid-solid circulating system containing all of the recited structural elements and structural interrelationships, this reference system is inherently capable of being employed as a gas-liquid-solid circulating fluidized bed system. Applicant should note that the intended use of a device is not a structural limitation, and hence cannot be relied upon to patentably distinguish apparatus claims. It is well settled that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987).

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to I. Cintins whose telephone number is 571-272-1155. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:00

PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Duane Smith, can be reached at 571-272-1166.

The centralized facsimile number for the USPTO is **571-273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ivars Cintins
Ivars C. Cintins
Primary Examiner
Art Unit 1724

I. Cintins
February 17, 2007